

Have sun!

With IBC TopFix 200 incl. 3rd rail

**Highest
mechanical
stability
(8,000 Pa)**



Product datasheet

IBC Module White 440 - 455 MS-TA1

Efficiency and high-performance
in combination.

Online shop:

Find our products
and further
information here.



Extended performance warranty

Guaranteed higher long-term electricity profits owed to TOPCon technology.



Higher low light output

Even in low light conditions, for example at dusk and on cloudy days, increased power production is ensured.



Optimized temperature coefficient

More power generation at hot temperatures by TOPCon technology.



Multi-busbar technology

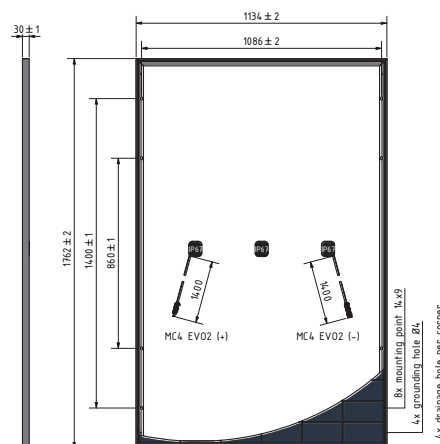
Reduced power and shading losses by using of 16 cell connectors.

You also benefit from:

- a positive power tolerance (-0/+3%)
- increased mechanical stability (5,400 Pa)
- a German guarantor
- 100% proved quality
- a 30-year performance warranty
- a 15-year product warranty



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IBC Module	White 440 MS-TA1	White 445 MS-TA1	White 450 MS-TA1	White 455 MS-TA1
Article number	2002800160	2002800142	2002800161	2002800162
Electrical data (STC)³⁾				
STC Power P _{max} (Wp)	440	445	450	455
STC Nominal Voltage U _{mp} (V)	32.81	33.02	33.21	33.41
STC Nominal Current I _{mp} (A)	13.41	13.48	13.55	13.62
STC Open Circuit Voltage U _{oc} (V)	39.38	39.59	39.78	39.98
STC Short Circuit Current I _{sc} (A)	13.86	13.93	14.0	14.07
Module Efficiency (%)	22.02	22.27	22.52	22.77
Power Tolerance (%)	-0/+3	-0/+3	-0/+3	-0/+3
Electrical data (NMOT)				
NMOT (°C)	45	45	45	45
800 W/m ² NMOT AM 1.5 Power P _{max} (Wp)	331	335	338	342
800 W/m ² NMOT AM 1.5 Nominal Voltage U _{mp} (V)	30.56	30.76	30.90	31.09
800 W/m ² NMOT AM 1.5 Open Circuit Voltage U _{oc} (V)	37.41	37.61	37.79	37.98
800 W/m ² NMOT AM 1.5 Short Circuit Current I _{sc} (A)	11.19	11.25	11.30	11.36
Relative Efficiency Reduction at 200 W/m ² (%)	3.0	3.0	3.0	3.0
Temperature coefficient (linear)				
Tempcoeff I _{sc} (%/°C)	0.046	0.046	0.046	0.046
Tempcoeff U _{oc} (mV/°C)	-98.45	-98.98	-99.45	-99.95
Tempcoeff P _{mp} (%/°C)	-0.3	-0.3	-0.3	-0.3

Operating conditions	
Max. System Voltage (V)	1500
Application Class	A
Reverse Current I _r (A)	25
Fuse protection from parallel strings	2
Protection class	II (DIN EN 61140)
Fire protection	Class C (IEC 61730-ANSI/UL790)
Mechanical properties	
Dimensions (L × W × H in mm)	1762 × 1134 × 30
Weight (kg)	21.0
Max. Test load, Push/Pull (Pa)	5400/2400
Max. Design load ²⁾ , Push/Pull (Pa)	3600/1600
Front sheet (mm)	3.2 (low-iron photovoltaic glass and anti-reflective coating)
Frame	anodized aluminium, sturdy hollow-chamber frame
Cells	12 × 9 mono-crystalline silicon cells
Connection type	Stäubli MC4-Evo 2A
Warranties and certification	
Product warranty	15 years ¹⁾
Performance warranty	30 years ¹⁾
Annual degradation	year 1 1,0% year 2-30 0,4%
Certification	IEC 61215, IEC 61730-1/-2, ISO 9001, ISO 14001, OHSAS 18001
Packaging information	
Number of modules per pallet	36
Number of pallets per truck	28
Dimensions incl. pallet (L × W × H in mm)	1792 x 1120 x 1249
Gross weight incl. double pallet (kg)	831
Stackability per pallet	2-fold

1) The linear power and product warranty are only valid for installations within Europe and Japan. The warranty requires installation according to the valid installation instructions. Standard test conditions: 1000 W/m² irradiation with a spectral distribution of AM 1.5 and a cell temperature of 25°C. 800 W/m², NOCT. Information according to EN 60904-3 (STC). All values according to DIN EN 50380. Errors and changes reserved. The precise conditions and content can be taken from the respectively valid version of the product and power warranty, which you can obtain from your IBC Premium Partner.

2) Loads according to IEC 61215-2:2016, max. design load

3) Measurement tolerances +/- 3 % at STC: 1000 W/m², 25 +/- 2 °C, AM 1.5

Your Premium Partner